REMARKS

Claims 20-38 are pending with claims 32-37 having been withdrawn from consideration. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Applicants would like to thank the Examiner for the indication that claim 22 contains allowable subject matter.

Regarding the outstanding Office Action, Applicants would like to clarify a number of points in the Office Action. First, Applicants respectfully submit that claims 20-31 and 38 should currently be under examination by the Office. Specifically, claims 20-31 where elected in the September 24, 2002 Response to Restriction Requirement. Moreover, since claim 38 depends on any of claims 25 and 28-31, it should also be included in the currently examined claims. Accordingly, Applicants respectfully submit that claims 20-38 are pending, with claims 32-37 having been withdrawn form consideration.

Regarding the certified copies, Applicants respectfully submit, that in accordance with the attached Form PCT/DO/EO/903, priority documents were submitted to the Patent Office. Accordingly, Applicant respectfully requests the Office acknowledge Applicants claim for Foreign Priority under 35 U.S.C. § 119.

The Office Action objects to the drawings asserting that "certain/essential numbered elements of the drawings in figures 1-2, 4-6, 10-12 and 18-20 are not labeled by name." Applicants have review the subject claims and are unsure as to what the Examiner is requesting be labeled in the claims. Accordingly, Applicants respectfully request the Examiner to clarify which "certain/essential numbered elements" are not labeled.

The Office Action rejects claims 20, 23 and 25-27 under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,773,486 to Chandross et al. (hereinafter "Chandross"). This rejection is respectfully traversed.

Applicants respectfully submit the rejection of claim 20 is moot in light of the cancellation of this claim. Regarding claim 21, and also applicable to claims 23 and

24, Applicants respectfully submit that Chandross at least fails to teach, suggest or disclose that a concentration of Ge is substantially the same as a concentration of Ge included in a core of another optical fiber to be connected to the fiber grating. Thus, for example, in accordance with the embodiment of the invention recited in claim 21, the following effects can be realized which are also not taught, suggested, or disclosed by the reference. Specifically, Sn is doped, and thereby the photosensitivity is increased and thereby it is selectively possible to lower a concentration of Ge. Therefore, when Sn is co-doped, write of the grating is promoted without a high concentration of Ge. Moreover, a concentration of Ge is substantially the same as a concentration of Ge included in a core of another optical fiber, and thereby it is possible to lower a connection loss.

For at least these reasons, Applicants respectfully submit that claim 21 is not rendered obvious by the Chandross reference. Likewise, claims 23 and 24, which depend directly from claim 21, are also not rendered obvious by the cited reference for at least the reasons outlined above and the additional feature(s) they recite.

Regarding claim 25, Applicants respectfully submit that Chandross at least fails to teach, suggest or disclose that the US wavelength is not less than 260 nm to not more than 350 nm. In general, the coat layer of the UV transmitting resin can provide high transmittance for the UV having a wavelength more than 260 nm. The high transmittance suppresses degradation of the UV transmitting resin. On the other hand, it is desirable for writing of the grating to adequately irradiate the UV. By making the wavelength of the first UV to write the fiber grating longer than 260 nm, and shorter than or equal to 350 nm, it is possible to irradiate the first UV to write the grating without degradation of the coat layer. For at least these reasons, Applicants respectfully submit that claim 25 is not rendered obvious by the Chandross reference. Likewise, claim 27 which depends directly from claim 25 is also not rendered obvious by the cited reference for at least the reason outlined above and the additional feature(s) it recites. Withdrawal of the rejection of claims 23 and 25-27 under 35 U.S.C. § 103 (a) is respectfully requested.

The Office Action rejects claims 21 and 24 under 35 U.S.C. § 103 (a) as unpatenable over Chandross and further in view of U.S. Patent No. 5,907,652 to DiGiovanni et al. (hereinafter "DiGiovanni"). This rejection is respectfully traversed.

Regarding claim 21, applicants respectfully submit that at least for the reasons outlined above in relation to the previous rejection, and the fact that DiGiovanni fails to over come these deficiencies, that claim 21 is not rendered obvious by the cited references, either alone or in combination. Furthermore, claim 24 which depends directly from claim 1 is also not rendered obvious for at least these reasons and the additional feature(s) it recites. Withdrawal of the rejection of claims 21 and 24 under 35 U.S.C. § 103(a) is respectfully requested.

Applicants respectfully submit the application is in condition for allowance. Favorable reconsideration and prompt allowance are respectfully requested.

Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is encouraged to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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Marked-up version of claims

21. (Once Amended) [The fiber grating of claim 20,]

A fiber grating comprising a core where a grating is written, a cladding for covering the core, and a coat layer for coating an outer face of the cladding,

wherein the coat layer is made from a UV transmitting resin and has a characteristic of transmitting UV at least of a specific wavelength band used for writing the grating and of curing by absorbing UV of a shorter wavelength band or a longer wavelength band than the specific wavelength band, and the grating is written by irradiating the core with the UV of the specific wavelength band through the coat layer,

wherein the core is co-doped with Ge and Sn, and a concentration of Ge is substantially the same as a concentration of Ge included in a core of another optical fiber to be connected to the fiber grating.

22. The fiber grating of claims [20 or] 21, further comprising a secondary coat layer for coating an outer face of the coat layer,

wherein the secondary coat layer is made from a material having a negative coefficient of linear expansion.

23 . The fiber grating of claim [20] 21, wherein the coat layer is formed from a sing coat film with a thickness of 30 μm or more.

25. A method of fabricating a fiber grating comprising the steps of:

fabricating a glass fiber structure including a core where a grating is

to be written and a cladding for covering the core;

forming a coat layer of a UV transmitting resin for covering an outer face of the glass fiber structure; and

writing the grating in the core by irradiating the core with first UV through

the core layer of which wavelength is longer than 260 nm and shorter than or equal to 350 nm,

wherein the step of forming the coat layer includes a step of curing the UV transmitting resin through irradiation with second UV having a different wavelength from the first UV.

27. The method of fabricating a fiber grating of claim 25 [or 26], wherein the coat layer is formed by a single coating method in a thickness of 30 μm through 50 μm.

38. The method of fabricating a fiber grating of any of claims 25[-26] and 28-31, wherein the coat layer is formed in a large thickness for exhibiting a mechanical strength characteristic equivalent to that of a coated fiber to be connected to the fiber grating, and

the UV irradiated for writing the grating is obtained by using solid laser and irradiates the core at an irradiation energy density of 1.5 through 4.0 kJ/cm^2.